

Amendments to the Specification

Applicants have provided a substitute paragraphs of the specification in order to obviate the Office Action's objections. Applicants respectfully submit that the specification is in compliance with 37 C.F.R. §§1.52(a)(b).

Please replace paragraph [0001] with the following rewritten paragraph:

This invention relates to a process description method and a process classification method intended for making it possible to make the most of knowledge about processes ~~beyond~~ across fields by describing and classifying various processes existing in the real world based on commonality beyond fields.

Please replace paragraph [0005] with the following rewritten paragraph:

The invention focuses attention on the fact that even processes in different fields are common in essential nature (dependence relationship between activities and method for coordinating the dependence relationship = process knowledge) ~~beyond~~ across the fields, and makes it possible to make the most of the process knowledge mutually ~~beyond~~ across the fields.

Please replace paragraph [0006] with the following rewritten paragraph:

The process knowledge common ~~beyond~~ across the fields is, for example, knowledge of arrival order processing of order jobs and knowledge about FIFO (first-in, first-out) in queue management of computers. The arrival order processing in order jobs is the same as the FIFO in queue management of computers. Thus, from the viewpoint of the process knowledge, it is desirable that the process knowledge can be used not only in each field, but also for mutual problem solution, hypothesis making, etc. However, hitherto, the process knowledge has been described for each field by the description method proper to each field, thus it has been difficult to mutually use the process knowledge.

Please replace paragraph [0007] with the following rewritten paragraph:

In the invention, a process knowledge database is constructed by a description method capable of representing the process knowledge found and developed in various fields in common and a classification method for organizing relevant processes ~~beyond~~ across the

fields and process analysis and process design jobs are supported by making the most of the process knowledge database.

Please replace paragraph [0013] with the following rewritten paragraph:

OKABE Masao et al.: Object shikou modeling shuhou MELON; "Object shikou saizensen," subtitle "Jyouhou shori gakkai' 96 symposium" (Sha) Jyouhou shori gakkai software kougaku kenkyukai Edited by AOYAMA Mikio and FUKASAWA Yoshiaki, Asakura Shoten, ~~July 7, 1996,~~ July 5, 1996, first edition.

Please replace paragraph [0020] with the following rewritten paragraph:

In techniques of describing and classifying process knowledge in related arts, databases proper to fields are developed by the process description methods dependent on the fields. (References 6, 9, and 10) However, even processes in different fields may be common in essential nature ~~beyond~~ across the fields. For example, arrival order processing in order jobs is the same as FIFO (first-in, first-out) in queue management of computers. The study field of paying attention to such nature and describing process knowledge in various fields according to common model for attempting to clarify scientifically is coordination science in progress in MIT (Massachusetts Institute of Technology) (Reference 1). Coordination defined in the coordination science refers to "managing of dependence relationship between activities" and in the coordination science, this definition is called coordination theory. MIT obtains US and European patents relating to a process representation display system for describing and classifying job processes in various business categories in common based on the coordination theory (References 2 and 3). The processes described according to activities and the dependence relationship between the activities are classified only by two hierarchical structures of abstract-concrete form relationship (specialization) and part-whole relationship (decomposition). In a system developed in MIT (Reference 11), the basic types for classifying the dependence relationships between activities are three types of Flow, Fit, and Share.

Please replace paragraph [0026] with the following rewritten paragraph:

In the related arts, the fields in which described processes exist are limited and thus an apparatus and method for systematically aiding in using the process knowledge ~~beyond~~ across the fields cannot easily be constructed. Therefore, for example, a company consultant abstracts the processes in different business categories by experience for re-adaptation.

However, this is limited to the field at which the consultant is good, and depends on the experience and the abstract capability of the consultant, thus variations of process propositions that can be selected are limited to the field and personal variations occur; this is a problem.

Please replace paragraph [0028] with the following rewritten paragraph:

It is therefore an object of the invention, to make the most of process knowledge ~~beyond~~ across fields and areas by describing and classifying various processes existing in the real world according to common models in process description describing each process as the dependence relationship between activities, to make it possible to systematically classify common characteristics of process knowledge ~~beyond~~ across fields while describing information of rational viewpoint (=epistemological ground) for modeling the process proper to each field by individually defining proper characteristics of fields and business categories to describe the processes.

Please replace paragraph [0032] with the following rewritten paragraph:

Thus, each process in the real world can be modeled from the viewpoint of analysis appropriate for using the process (epistemological ground) and the components of the modeled process are classified ~~beyond~~ across the epistemological ground, whereby a retrieval can be made from similarity and contrast on classification beyond fields, whereby it is made possible to use the process knowledge beyond fields for analyzing and designing the process.

Please replace paragraph [0036] with the following rewritten paragraph:

In the configuration, the activity, resource, and dependence relationship of the target process can be described for each viewpoint of process analysis or domain of the target process (epistemological ground) and the constraints, etc., of the domain are defined, whereby analysis appropriate for the domain can be made. It is also made possible to again use knowledge of processes belonging to different epistemological grounds by classifying the processes based on the activity, the resource, and the dependence relationship ~~beyond~~ across fields. Formerly, it was difficult to use the knowledge about the processes in different domains.

Please replace paragraph [0037] with the following rewritten paragraph:

In the configuration, at least one of the activities, the resource, and the dependence relationship may be displayed as a figure element. More than one dependence relationship between activities may exist, in which case the dependence relationship to be displayed may be selected by specifying the attribute and attribute value of the dependence relationship. The activity or the resource to be displayed may also be selected by specifying the attribute and attribute value thereof. In doing so, an appropriate display for the purpose and scene of analysis can be produced.

Please replace paragraph [0038] with the following rewritten paragraph:

To the end, according to the invention, there is provided a process description apparatus for describing a process using a model wherein a plurality of activities have dependence relationship via a resource, the process description apparatus comprising the features discussed below.

Please replace paragraph [0039] with the following rewritten paragraph:

A means for storing constraints of the process activities, resource, and dependence relationship under a predetermined domain identifier for the domain of the process to be described; means for assigning a domain identifier to the process to be ~~described~~; described.

Please replace paragraph [0040] with the following rewritten paragraph:

In addition, a means for describing the attributes of the activities of the process to be described under the constraints of the assigned domain identifier; means for describing the attributes of the resource of the process to be described under the constraints of the assigned domain identifier; means for describing the attributes of the dependence relationship of the process to be described under the constraints of the assigned domain identifier; and means for displaying at least one of the activities, the resource, and the dependence relationship as a figure element.

Please replace paragraph [0042] with the following rewritten paragraph:

Also in the configuration, the activity, resource, and dependence relationship of the target process can be described for each viewpoint of process analysis or domain of the target process (epistemological ground) and the constraints, etc., of the domain are defined, whereby analysis appropriate for the domain can be made. It is also made possible to again use

knowledge of processes belonging to different epistemological grounds by classifying the processes based on the activity, the resource, and the dependence relationship ~~beyond~~ across fields.

Please replace paragraph [0100] with the following rewritten paragraph:

The dependence relationships of activities and resources are classified according to various classification structures including meaningful abstract and concrete (Is-a) relationship 141, inclusion (Part-of) relationship 142 indicating composition, in FIG. 14A, and cluster relationship proper to each field 143, etc., as shown in FIG. 14B as an example. FIG. 15 shows examples of classification of resources 151. More than one classification structure can be defined for each epistemological ground and from the practical demand, a single global epistemological ground 181 exists as shown in FIG. 18 and global classification structure 182 is retained in the global epistemological ground.

Please replace paragraph [0134] with the following rewritten paragraph:

The process design method aids in designing a new process by retrieving a replaceable process description or a similar process description to the whole or part of the process to be designed by the above-described retrieval method and improving the found process description. To execute retrieval, a plurality of epistemological grounds are retrieved or a global epistemological ground is retrieved, whereby information concerning processing description from areas ~~beyond~~ across fields and domains can be provided.

Please replace paragraph [0142] with the following rewritten paragraph:

FIGs. 19A and 19B ~~shows~~ show an embodiment of data structures required for realizing the system.

Please replace paragraph [0151] with the following rewritten paragraph:

FIGs. 20A and 20B ~~shows~~ show examples of data structures of the epistemological ground 234, activity 231, resource 233, and dependence relationship 232. FIGs. 21A and 21B ~~shows~~ show examples of data structures relevant to the classification information such as classification file 234 235, cluster relationship classification 236 and inclusion relationship classification 237. FIGs. 22A and 22B ~~shows~~ show examples of data structures relevant to the history information.

Please replace paragraph [0173] with the following rewritten paragraph:

A specific process description example is shown. An embodiment wherein the process to be described is "print processing" (Request 220) of the domain of "~~information computer processing system,~~" (212) output from a word processor to a printer, ~~is shown~~ will be described.

Please replace paragraph [0195] with the following rewritten paragraph:

According to the invention, processes in different fields and businesses can be put into a database in common and to analyze, retrieve, and design a process, the most of the process knowledge ~~beyond~~ across fields can be made.